What is Claimed is:

1. A packet group for use in a trace stream, the packet group comprising:

at least one header packet; and

at least one packet subgroup, each packet having an extension portion and a payload portion, the number of packet subgroups determined by a field in the header packet, wherein the first packet in each packet subgroup includes a first extension portion, the packets following the first packet in subgroup that are a continuation of the first subgroup packet having a second extension.

2. The packet group as recited in claim 1 wherein, when in the sequence of packets of the last subgroup of patents, the next sequential packet does not have the second extension, the packet group has ended.

3. The packet group as recited in claim 2 wherein the next sequential packet begins a new packet group.

4. The packet group as recited in claim 3 wherein for selected packet groups, a header is implied for new packet groups.

5. The packet group as recited in claim 1 wherein, when the header is defined to have more than one packet,

the extension portions of the packets following the first packet can be used to convey information.

6. A processor test and debug system, the system comprising:

a host processing; and

a target processor, the target processor transmitting trace streams to the host processing unit, the trace streams permitting the host processing unit to reconstruct the operation of target processing unit, at least one trace stream being comprised of a sequence of packet groups, each packet group including:

at least one header packet; and

at least one packet subgroup, each packet having an extension portion and a payload portion, the number of packet subgroups determined by a field in the header packet, wherein the first packet in each packet subgroup includes a first extension portion, the packets following the first packet in subgroup that are a continuation of the first subgroup packet having a second extension.

7. The packet group as recited in claim 6 wherein, when in the sequence of packets of the last subgroup of patents, the next sequential packet does not have the second extension, the packet group has ended.

8. The packet group as recited in claim 7 wherein the next sequential packet begins a new packet group.

9. The method for transferring information from a target processor to a host processing unit in trace streams, the method comprising:

dividing the information into packet groups;

formatting each packet group to include at least one header packet; and

formatting the packet group to include at least one packet subgroup, each packet subgroup having an extension portion and a payload portion, the number of packet subgroups determined by a field in the header packet, wherein the first packet in each packet subgroup includes a first extension portion, the packets following the first packet in subgroup that are a continuation of the first subgroup packet having a second extension.

10. The method as recited in claim 9 wherein, when in the sequence of packets of the last subgroup of patents the next sequential packet does not have the second extension, the packet group has ended.